CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 78-42

NPDES NO. CA0038024

AN ORDER AMENDING ORDER NO. 74-78
TO ADOPT REVISED REQUIREMENTS FOR:

CITY OF FAIRFIELD
SOLANO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. On 20 August 1974, the Board adopted Order 74-78 issuing an NPDES permit for the City of Fairfield, hereinafter called the discharger.

2. The Water Quality Control Plan for San Francisco Bay Basin adopted in April 1975, prohibits discharge of wastewater during the dry weather period to the waters of Suisun Marsh.

3. Discharge Prohibition C.2 of said Order prohibits discharge to receiving waters from May 2 through September 21 of each year and requires the discharger to minimize discharge from September 22 through December 1 and from March 2 through May 1.

4. In order to comply with the dry-weather discharge prohibition, the 1974 Fairfield facilities plan provided for summer time effluent re-use by spray irrigation of turf and orchards in the vicinity of the treatment plant. Subsequent modifications of State Health Department Wastewater Reclamation Criteria required that effluent used for spray irrigation of food crops receive additional treatment not provided by the Fairfield treatment plant. This effectively precluded Fairfield effluent re-use for orchard spray irrigation and thereby reduced re-use potential in the immediate area by 50%. During the dry weather period of 1977 and 1978, the excess effluent was discharged to surface waters in violation of the discharge prohibition.

5. Modifications to the discharger's facilities are necessary to achieve compliance with Health Department regulations for orchard spray irrigation. Implementation of these modifications will allow all of Fairfield's effluent to be re-used in the treatment plant vicinity thus enabling compliance with the discharge prohibition to surface waters.

6. The nominal design capacity of the existing treatment plant is 10.35 mgd. Present flows exceed 75% of design capacity.

7. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

8. The Board has notified the discharger and interested agencies and persons of its intent to amend the waste discharge requirements for the proposed discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

9. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 74-78 is amended as follows:

1. Prohibition C.4 is added as follows:

> The average dry weather flow receiving treatment shall not exceed 10.35 mgd. Average flow shall be determined over 3 consecutive months.

2. Provisions D.2.a. and D.2.b are deleted and replaced with the following:

D.2.a. Compliance with Prohibition C.3:

Task	Completion Date	Report of Compliance Due
Submit analysis and evaluation of past receiving water monitoring data including correlations of data on nutrients, chlorophyll-a, phytoplankton and periphyton	March 15, 1979	April 1, 1979

D.2.b. Compliance with Discharge Prohibition C.2.

Task	Completion Date	Report of Compliance Due
Submit a time schedule for achieving compliance with the Discharge Prohibition C.2	July 15, 1978	August 1, 1978

3. Provision D.9 is added to read as follows:

> The discharger shall submit by August 1, 1978, an engineering study concerning plans to expand the treatment and disposal/re-use capacity of the plant so as to provide capacity for flows projected to occur through July 1, 1983.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 20, 1978.

FRED H. DIERKER
Executive Officer

Attachment:
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

City of Fairfield

Solano County

NPDES NO. CA 0038024

ORDER NO. 78-42

CONSISTS OF

PART A , dated January 1978

AND

PART B , ordered August 20, 1974, and effective August 20, 1974; revised July 1, 1975; revised July 6, 1977; revised June 20, 1978

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
A	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

Station	Description
D	Wet well of the Solano Irrigation District (SID) pump station on Chadbourne Road.
E	At any point in the outfall following the final treatment process and between the point of discharge and the point at which all waste tributary to that outfall is present.
F	At a point in the treatment process following filtration and prior to chlorination.
G	At a point in the disinfection facilities prior to de-chlorination at which the effluent can be shown to have had a minimal nominal chlorine contact time of 2 hours.
H	At a point in the treatment process prior to filtration following secondary settling.

C. RECIEVING WATERS (See Illustration A)

Station	Description
C-1	At a point in Boynton Slough within 100 feet downstream from the outfall discharge.
C-2	At a point in Boynton Slough crossing under the tracks of the Southern Pacific railroad.
C-3	At a point in Boynton Slough as shown in Illustration A of this monitoring program.
C-4	At the mouth of Boynton Slough as it enters Suisun Slough.
C-5	At the mouth of Sheldrake Slough as it enters Suisun Slough.

C. RECEIVING WATERS (See Illustration A) (continued)

Station	Description
C-6	At the mouth of Peytonia Slough as it enters Suisun Slough.
C-R	At the point in Peytonia Slough crossing under the tracks of the Southern Pacific railroad (reference station).

D. LAND OBSERVATIONS

Station	Description
P-1 thru P-'n'	Located along the periphery of the treatment plant, at equidistant intervals, not to exceed 500 feet (A sketch showing the locations of these stations will accompany each report.)

E. MISCELLANEOUS REPORTING

1. The annual report (Part A, section F.4.) shall include analyses and correlations of data on nutrients, chlorophyll a, phytoplankton populations, and periphyton populations for all receiving water stations.

2. Monthly report shall include coagulant dosage on a daily basis in mg/l and kg/d.

3. Monthly report shall include daily minimum nominal chlorine contact time for which a minimal residual of mg/l has been maintained.

4. Monthly report shall include the maximum and average tertiary filter loading rates on a daily basis.

II. SCHEDULE OF SAMPLING MEASUREMENTS, AND ANALYSIS

A. The schedule of sampling, measurements and analysis shall be that given as Table I.

III. MODIFICATIONS OF PART "A" (dated January 1978)

Exclusions: Paragraphs C.3, C.4, C.5,(c)

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 74-78.

2. Was ordered by the Executive Officer on August 20, 1974, became effective immediately, was revised effective July 1, 1975, and is hereby ordered further revised effective on the date ordered as shown below.

3. May be reviewed at any time subsequent to the effective date upon notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachment:
Table I & Illustration A

Date Ordered June 20, 1978

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A	E			C	D		F		G		H	
TYPE OF SAMPLE	C-24	C-24	G	Cont	G	C-24	Cont	C-24	Cont	G	Cont	G	
Flow Rate (mgd)				cont			D						
BOD, 5-day, 20° C, or COD (mg/l & kg/day)	7/W	7/W				7/W		W					
Chlorine Residual & Dosage (mg/l & kg/day)			D (2)	(2) Cont		7/W				D (2)	(2) Cont		
Settleable Matter (ml/1-hr. & cu. ft./day)			D										
Total Suspended Matter (mg/l & kg/day)	7/W	7/W						W					
Oil & Grease (mg/l & kg/day)		(3) 2/M											
Coliform (Total or Fecal) (MPN/100 ml) per req't			7/W		2W								
Fish Toxicity, 96-hr. TL_{50} % Survival in undiluted waste		M (4)											
Ammonia Nitrogen (mg/l & kg/day)		W			2W			W					
Nitrate Nitrogen (mg/l & kg/day)		W			2W								
Nitrite Nitrogen (mg/l & kg/day)		W											
Total Organic Nitrogen (mg/l & kg/day)		W			2W								
Total Phosphate (mg/l & kg/day)		W			2W								
Turbidity (Jackson Turbidity Units)		7/W			2W				Cont			D	
pH (units)				(5) Cont	2W								
Dissolved Oxygen (mg/l and % Saturation)			D		2W								
Temperature (°C)			D		2W								
Apparent Color (color units)		(6) 2/M			2W (6)								
Chlorophyll-a (mg/l)					2W								
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)			2/W		2W								
Arsenic (mg/l & kg/day)		3M											
Cadmium (mg/l & kg/day)		3M											
Chromium, Total (mg/l & kg/day)		3M											
Copper (mg/l & kg/day)		3M											
Cyanide (mg/l & kg/day)		3M											
Silver (mg/l & kg/day		3M											
Lead (mg/l & kg/day)		3M											

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A	E			C-1, 2, 3, 4, 5, 6, & R		P-1 thru P-'n'	D (1)			F	G	H
TYPE OF SAMPLE	C-24	C-24	G	Cont	G		O	C-24	G	Cont			
Mercury (mg/l & kg/day)		3M											
Nickel (mg/l & kg/day)		3M											
Zinc (mg/l & kg/day)		3M											
PHENOLIC COMPOUNDS (mg/l & kg/day)		3M											
All Applicable Standard Observations			D		2WK		2/W						
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)		3M											
Non-dissociated Ammonium Hydroxide as N (mg/l)					2WK								
Phytoplankton (≥ 5 u)					M								
Periphyton Analysis					3M								
Silica - $S_i O_2$					2M								
Electrical Conductivity					2/M								

LEGEND FOR TABLE

TYPE OF SAMPLES

G = grab sample
C-24 = 24 hr. composite sample
Cont = continuous sampling
O = observation

TYPE OF STATIONS

A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facility perimeter station
D = effluent for irrigation station

Frequency of Sampling

Cont = continuous
D = once each day
W = once each week
2/W = two days each week
7/W = seven days each week
2/M = two days each month
M = once every month
2M = once every two months
3M = once every three months (quarterly)
2WK = every two weeks at high slack tide (Note: If it is impossible to meet this criterion during a given week, sampling shall be performed such that the two sampling periods fall on consecutive days during the proper tidal stages. Sampling days shall be chosen such that the sampling period for each day occurs during daylight hours.)

FOOTNOTES

(1) Sampling at SID wet well "D" shall be performed only if final effluent holding reservoirs are in use.

(2) Report the following on a daily basis:

a) Number of violations as registered on chlorine residual analyzer range of violations, estimate of violation duration.

b) Chlorine residual analyzer reading that corresponds to grab sample analysis.

c) Date and time of analyzer calibration.

d) Chlorine dosage in mg/l and kg/d.

(3) Monthly grab samples shall be collected twice per month as Station "E" as further discussed below.

Oil and grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day, with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample.

If the plant is not staffed 24 hours per day or if the discharge does not occur continuously, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed or during the period that discharge is made.

In the event that semi-monthly sampling for oil and grease shows an apparent violation of the waste discharge permit 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly, so that a true 30-day average can be computed and compliance can be determined.

(4) If the percent survival of test fishes in undiluted waste after 96 hours is less than 50%, report both percent survival in undiluted waste and 96-hr median tolerance limit.

(5) pH shall be measured continuously and the following data shall be reported: (1) minimum and maximum pH values for each 24-hour period (day), and (2) the monthly average of the daily average of minimum and maximum pH values.

(6) Apparent color shall be determined and reported in two manners:

a. Color Units: use of analyses for all sampling station using Section 204A of Standard Methods (14th edition), and

b. Visual Comparison: individual comparison of in situ color of effluent and receiving water sampling stations in relation to color of sample from reference station C-R.

(7) Report on a daily basis minimum, maximum, average, and percent of time in excess of 5 JTU.